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Ameritech

Anthony M. Alessi
Director
Federal Relations

February 8, 1999

Mr. Dale Hatfield, Chief
Office of Engineering and Technology
Federal Communications Commission
2000 M Street, NW
Room 480
Washington, DC 20554

Dear Mr. Hatfield:

Attached is the final report concerning the outage that occurred on January 8, 1999 near Clarkston, Michigan. Please call if you have any questions.

Sincerely,

Attachment
cc: Robert Kimball

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FINAL REPORT
FCC SERVICE

Company : Ameritech - Michigan **Type:** 30,000 to 50,000

Geographic Location: Clarkston, Michigan LATA 340

Type of Service Affected: Interoffice Switched Services

Estimated Number of Customers Affected: 35,691 customers were affected.

Date of Incident: 1/8/99 **Time:** 6:25:04 A.M. EST

Date of Correction: 1/8/99 **Time:** 7:28:08 A.M. EST

Description of Trouble:

Customers served by the Clarkston, Michigan Central Office Host switch and its Pontiac North remote, were unable to complete interoffice calls when the Clarkston Host was SS7 isolated from its STPs (Signal Transfer Points). With the exception of E911 calls, which were not affected, all interoffice calls were blocked, and any attempted calls resulted in a reorder signal. Intraoffice calls were unaffected.

Estimated Number of Blocked Calls : There were 1016 Ameritech blocked calls; 1662 AT&T reported blocked call attempts.

Apparent or Known Cause of Outage:

The Direct Cause of the service interruption was the failure of both SS7 A Links which occurred when power which supplied transport equipment for both links was interrupted during a circuit breaker replacement. While removing the breaker being replaced, the Vendor technician's screwdriver slipped off the screw and caused a 400 Amp LD-A breaker to trip.

The Root Cause of the service interruption was the failure of the Vendor technician to use approved insulated tools to perform the work. A properly insulated screwdriver would not have caused the arc which tripped the breaker.

Name and Type of Equipment Involved: SS7 A Links; associated transport equipment.

Specific Part of Network Involved: Signaling

Methods Used to Restore Service:

Service was restored when an Ameritech technician arrived on site and reset the tripped breaker. The magnitude of the service interruption was extended because, the Vendor technician was not familiar with Central Office transport equipment and was unaware of the tripped breaker or its location.

Steps Taken to Prevent Recurrence of Outage:

1) The Best Practice described in Network Reliability: A Report To The Nation, Power focus section, 6.5.5.8 - Methods and Procedures, states the following: "Detailed methods and procedures are needed to identify all protection required around the energized DC bus when there is a possibility of ground fault during the installation process." In this case, although there was an approved Methods of Procedures (MOP), it did not spell out the specific level of insulation required. The vendor has subsequently agreed to supply their technicians with OSHA approved insulated tools. Ameritech guidelines in TREM 00011 will be revised to specifically require OSHA approved insulated tools.

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2) The Best Practice described in Network Reliability: A Report To The Nation, Signaling focus section, 6.2.1.5 - "CCS Signaling Link Element Diversity" recommends the following: "Power and Fusing: No components of a paired CCS link transmission path should share a common fuse or load." In this case the Channel Bank from one link and the Multiplex equipment from the other link shared the same Load A supply, not meeting this recommendation.

Contact: Ayanna Caldwell **Telephone:** 847-248-2746